



SEQUENCE LISTING

<10> Japan as Represented by Director General of Okazaki National Research Institutes

<120> Nav2 channel gene-deficient non-human animals

<130> U2001P059

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<150> JP 2000/237320

<151> 2000-08-04

<150> JP 2000/241637

<151> 2000-08-09

<150> JP 2001/222263

<151> 2001-07-23

<160> 8

<170> PatentIn Ver. 2.1

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ttc ttc cgg gtg tgg aac agg ttt gac	cct gat agg acc cag tac ata	4850	
Phe Phe Arg Val Trp Asn Arg Phe Asp	Pro Asp Arg Thr Gln Tyr Ile		
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gac tct agc aag ctt tct gat ttt gca	gct gct ctg gat cct cct ctt	4898	
Asp Ser Ser Lys Leu Ser Asp Phe Ala	Ala Ala Leu Asp Pro Pro Leu		
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ttc atg gca aaa cca aac aag ggc cag	ctt gtg gcc atg gat ctc ccc	4946	
Phe Met Ala Lys Pro Asn Lys Gly Gln	Leu Val Ala Met Asp Leu Pro		
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atg gct gcg gga gac aga atc cac tgc	ctc gac att tta ctt gcc ttt	4994	
Met Ala Ala Gly Asp Arg Ile His Cys	Leu Asp Ile Leu Leu Ala Phe		
1570	1575	1580	
acg aaa aga gtg atg gga aag gat gag	agg gtg gag aaa atc ctt tca	5042	
Thr Lys Arg Val Met Gly Lys Asp Glu	Arg Val Glu Lys Ile Leu Ser		
1585	1590	1595	
gag ata gaa tcc ggg ttc atg tta gcg	aac cct ttc aaa atc act tat	5090	
Glu Ile Glu Ser Gly Phe Met Leu Ala	Asn Pro Phe Lys Ile Thr Tyr		
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gag ccg att aca act act ttg aaa cgc	aaa caa gag gca gtt tca gca	5138	
Glu Pro Ile Thr Thr Thr Leu Lys Arg	Lys Gln Glu Ala Val Ser Ala		
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acc atc atc cag cgt gca tat aaa agc	tac cgc tta agg caa aat gac	5186	
Thr Ile Ile Gln Arg Ala Tyr Lys Ser	Tyr Arg Leu Arg Gln Asn Asp		
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aag aat gta tca gat act cct gct ata	gat gac cgc aga gat gat ctt	5234	

Lys Asn Val Ser Asp Thr Pro Ala Ile Asp Asp Arg Arg Asp Asp Leu
1650 1655 1660

act tct aaa ggt gct cac tct ggc aaa atc gag gag aag gca tct att 5282
Thr Ser Lys Gly Ala His Ser Gly Lys Ile Glu Glu Lys Ala Ser Ile
1665 1670 1675

cag acc cag att taa tgacacttcc cacttctact ttctttacat atgtccccaa 5337
Gln Thr Gln Ile
1680

gcactaaatg ttaactgatc ttaagctgga gatcagaaac tagagataat gataacatct 5397

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35 40 45
Lys Arg Leu Pro Ile Pro Tyr Gly Thr Leu Pro Arg Gly Thr Val Ser
50 55 60
Glu Pro Leu Glu Asp Val Asp Pro Tyr Tyr Tyr Val Lys Arg Asn Thr
65 70 75 80
Phe Met Val Leu Asn Arg Ser Arg Val Ile Phe Arg Phe Asn Ala Val
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Ser Ile Phe Cys Thr Leu Ser Pro Leu Asn Ser Leu Arg Arg Ala Ala
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Ile Lys Ala Leu Val His Pro Leu Phe Arg Leu Leu Ile Leu Ile Ser
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Val Leu Thr Asp Ser Ile Leu Met Cys Met Ser Asn Leu Pro Glu Trp
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Ile Leu Ala Ile Glu Asn Thr Leu Leu Gly Ile Tyr Ala Phe Glu Ile
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Leu Val Lys Val Ile Ala Arg Gly Ile Trp Ala Gly Ser Phe Ser Phe
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Ile Arg Thr Phe Arg Ile Leu Lys Ile Ile Pro Leu Asn His Gly Leu
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Gln Ser Ile Val Met Thr Leu Ala Gln Cys Leu Lys Lys Leu Phe Gly
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Ala Ile Ala Leu Ala Leu Phe Phe Leu Ala Val Phe Ser Leu Leu Gly
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Pro	Glu	Thr	Ser	Arg	Lys	Lys	Cys	Pro	Ile	Cys	Trp	His	Lys	Phe	Ile	
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Glu	Phe	Ala	Asp	Arg	Val	Ile	Thr	His	Pro	Leu	Ala	Asp	Leu	Phe	Leu	
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Val	Ile	Cys	Ile	Val	Leu	Asn	Ile	Cys	Phe	Leu	Ala	Leu	Glu	His	Phe	
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Pro	Met	Ser	Glu	Glu	Leu	Arg	Ser	Leu	Leu	His	Val	Gly	Asn	Leu	Val	
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Phe	Ile	Gly	Ile	Tyr	Thr	Ile	Glu	Leu	Ile	Leu	Lys	Ile	Ile	Ala	Met	
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His	Pro	Tyr	Gly	Tyr	Phe	Gln	Ile	Ser	Trp	Asn	Ile	Phe	Asp	Ser	Ile	
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Tyr	Gly	Pro	Pro	Phe	Lys	Ser	Leu	Met	Arg	Ile	Leu	Gly	Ser	Ser	Leu	
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Met	Ala	Leu	Lys	Asp	Leu	Val	Leu	Leu	Leu	Cys	Ile	Phe	Val	Tyr	Phe	
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Ser	Ala	Val	Phe	Gly	Met	Lys	Leu	Phe	Gly	Arg	Ser	Tyr	Lys	Asp	Cys	
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Arg	Ile	Lys	Ser	Gly	Ile	Asn	Ser	Met	Leu	Leu	Lys	Leu	Met	Cys	Thr	755	760	765
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Lys	Met	Lys	Gln	Ser	Ser	Ser	Ser	Glu	Cys	Ser	Thr	Val	Asp	Ile	Ala	865	870	875
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Leu	Leu	Cys	Thr	Gly	Thr	Leu	Ala	Leu	Glu	Asp	Ile	Tyr	Ile	Asp	Gln	945	950	955
Arg	Lys	Thr	Thr	Lys	Ile	Leu	Leu	Glu	Tyr	Ala	Asp	Met	Ile	Phe	Ala	965	970	975
Tyr	Ile	Phe	Ile	Leu	Glu	Met	Leu	Leu	Lys	Trp	Val	Ala	Tyr	Gly	Phe	980	985	990
Lys	Ala	Phe	Ser	Asn	Asn	Trp	Tyr	Lys	Leu	Asp	Phe	Met	Val	Val		995	1000	1005
Ile	Val	Phe	Cys	Leu	Ser	Leu	Ile	Gly	Lys	Thr	Arg	Glu	Asp	Leu	Asn	1010	1015	1020
Pro	Leu	Thr	Ser	Ile	Lys	Phe	Leu	Arg	Ala	Leu	Arg	Val	Leu	Ser	Gln	1025	1030	1035
Phe	Glu	Arg	Met	Lys	Val	Val	Leu	Arg	Ala	Leu	Ile	Lys	Thr	Thr	Leu	1045	1050	1055
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Asp	Pro	Thr	Lys	Gly	Glu	Arg	Phe	Pro	Val	Phe	Glu	Val	Met	Asn	Lys	1090	1095	1100
Ser	Gln	Cys	Glu	Lys	Leu	Leu	Phe	Asn	Glu	Ser	Met	Pro	Trp	Glu	Asn	1105	1110	1115
Ala	Lys	Leu	Asn	Phe	Asp	Asn	Val	Gly	Asn	Gly	Phe	Leu	Ser	Leu	Leu	1125	1130	1135
Gln	Val	Ala	Thr	Phe	Asn	Gly	Trp	Ile	Ser	Ile	Met	Asn	Ser	Ala	Ile	1140	1145	1150
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Ile	Lys	Gln	Gly	Gly	Ser	Asn	Ile	Phe	Ile	Thr	Val	Lys	Gln	Lys	Lys	1205	1210	1215
Gln	Tyr	Arg	Ala	Leu	Lys	Lys	Leu	Leu	Tyr	Ala	Asp	Val	Gln	Lys	Pro			

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Thr His Arg Val Phe Asn Val Ile Ile Ile Leu Leu Ile Cys Phe Gln		
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Ala Thr Thr Ile Met Ile Gln Lys Asp Glu Gln Ser Pro Gln Met Glu		
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Ala Trp Asn Val His Asp Phe Met Val Val Ile Phe Ser Ile Thr Gly		
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Val Gln Leu Ile Leu Leu Ser Arg Val Ile His Ile Leu Arg Pro Gly		
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Lys Gly Pro Lys Val Phe His Asp Leu Met Leu Pro Leu Ile Leu Ala		
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Ile Tyr Ala Ile Phe Gly Met Tyr Asn Phe Ala Tyr Val Lys Lys Glu		
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Leu Cys Leu Phe Gln Val Thr Thr Phe Ser Gly Trp Asp Gly Met Leu		
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Asp Ala Ile Phe Asn Ser Gln Trp Ser Asp Cys Asp Pro Asp Lys Ile		
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Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro Pro Leu Phe Met Ala		
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Val Met Gly Lys Asp Glu Arg Val Glu Lys Ile Leu Ser Glu Ile Glu		
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Ser Gly Phe Met Leu Ala Asn Pro Phe Lys Ile Thr Tyr Glu Pro Ile		
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<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:Primer1

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<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:Primer2

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<210> 7
<211> 21
<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:Primer3

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<212> PRT
<213> Rattus norvegicus

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